DOCUMENT RESUME

ED 474 705 CE 084 717

AUTHOR	Wagner, June G.
TITLE	The Changing Shape of Corporations.
INSTITUTION	National Business Education Association, Reston, VA.
PUB DATE	2003-03-00
NOTE	10p.; Published four times per year. Theme issue.
AVAILABLE FROM	National Business Education Association, 1914 Association Drive, Reston, VA 20191-1596 ($3.50 per issue). Tel: 703-860-8300; Fax: 703-620-4483; Web site: http://www.nbea.org.
PUB TYPE	Collected Works - Serials (022) -- Reports - Descriptive (141)
JOURNAL CIT	Keying In; v13 n4 Mar 2003
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	*Adjustment (to Environment); Adult Education; Aging (Individuals); Case Studies; Change Strategies; Communication Skills; *Corporate Education; *Corporations; Cultural Differences; Cultural Pluralism; Decision Making; Definitions; *Economic Change; Economic Climate; Employer Employee Relationship; Employment Patterns; Employment Practices; *Employment Qualifications; Empowerment; Guidelines; Information Industry; Information Technology; Labor Force; Learning Activities; Lifelong Learning; Manufacturing Industry; Postsecondary Education; Service Occupations; *Skill Development; Trend Analysis; Work Environment
IDENTIFIERS	Impact Studies; Work Based Learning

ABSTRACT

This newsletter contains two articles dealing with the changing shape of corporations. The article "Trends in Business Culture" argues that Wal-Mart's emergence as the largest corporation in the United States reflects the larger economic shift in the U.S. economy from production of goods to provision of abstract goods such as services and information and discusses the impact of the following trends on corporations: the rise of information and communication technologies; globalization; doing business 24 hours per day 7 days per week; educated consumers; and the aging workforce. The article "Teaching the New Workplace Skills" explains how some U.S. corporations are keeping abreast of the constant changes in business and industry by teaching the skills needed for success in today's workplace. Particular attention is paid to the following topics: the skills and knowledge needs stemming from the increasing diversity of corporations employees, customers, investors, clients, and other stakeholders; traditional hierarchical ("pyramid") management structures versus new horizontal and cross-functional ("web") structures; self-directed, empowered employees; communication skills; decision-making skills; teamwork skills; leadership skills; and ways business educators can help students pursue the continual learning needed to meet the challenges of the new knowledge economy. A communication exercise, decision-making exercise, and 16-item resource list are included. (MN)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 474 705

The Changing Shape of Corporations

Keying In: The Newsletter of the National Business Education Association

Volume 13, Number 4
March 2003

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY
R. M. McDowell
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
2A

CE084717

BEST COPY AVAILABLE

Keying In

The Newsletter of the National Business Education Association

Volume 13 Number 4 March 2003

THE CHANGING SHAPE OF CORPORATIONS

Trends in Business Culture

In 2002, Wal-Mart emerged as the largest corporation in the U.S., surpassing the old economy oil giant, Exxon, to become the first service company to rise to the top of the Fortune 500 (Murphy, 2002). When *Fortune* magazine began publishing its list of the largest American companies in 1955, General Motors was America's biggest company and Wal-Mart was nonexistent. Founded in 1962, Wal-Mart was generating one billion dollars in sales per year by 1979. By 2001, it did that much business in a day (Murphy, 2002).

The rise of Wal-Mart reflects a larger economic shift in the U.S. from producing physical goods to providing abstract goods like services and information. The Bureau of Labor Statistics projects that by 2005, the percentage of workers employed in physical goods-producing industries (mining, construction, manufacturing, etc.) will fall below 20%, the lowest level since 1850 (Coy, 2000).

The shift in the U.S. economy toward services and information is partly due to the move of manufacturing overseas in order to take advantage of cheaper labor. Another factor is that supplying basic needs—food, clothing, shelter—currently takes up a smaller proportion of the household budget in the U.S. Families spent nearly twice as much of their incomes on food in 1955 as they do now. The extra, disposable income is being spent predominantly on services—entertainment, eating out, consumer goods, and information technology. Indeed, 64 of the top 100 companies on the 2002 Fortune 500 list are service companies (Murphy, 2002). And even in companies not devoted to service, a new service ethic prevails, where the customer's needs take precedence.

The new service ethic is part of a major transformation in corporate America that David Ticoll, chief executive of Digital 4Sight Systems and Consulting, Ltd., a business think tank and consulting firm, calls "an epochal change in the history of production" (Byrne, 2000, p. 1). As the nature of work is evolving from lower-skill, physical labor jobs to higher-skill knowledge jobs, the centuries-old tradition of one-way, top-down management hierarchies in corporations is giving way to more flat, more interactive paradigms. "What I see is a great emphasis on personal responsibility and more participatory management," observes Sheryl Piening, an instructor at Southeast Community College in Milford, Nebraska.

"Leadership is no longer about command and control, hierarchy, title, or status," notes Carly Fiorina, chairman and CEO of Hewlett-Packard. "It's about encouraging,

TRENDS . . . continues on page 2

Teaching the New Workplace Skills

To keep abreast of the constant changes in business and industry, Southern Union State Community College in Opelika, Alabama, draws on the expertise of advisory boards composed of individuals from surrounding manufacturing companies, banks, hospitals, and accounting firms, notes Mary Jean White. Establishing links with local businesses is one of the best ways, she says, for business educators to ensure that students are taught the appropriate skills needed in the workplace. "Employers want schools to turn out the workforce faster. They care less about a degree and more about proof that prospective employees can actually do the job," she observes. Today's students need not only a diploma, but also a résumé and a portfolio demonstrating key competencies.

Venkat Krishnamurthy concurs. "A degree may get you in the door, but then the job responsibilities may turn out to be completely different," he says. "For example, United may hire an individual with a degree in electrical engineering and then expect that person to function as part of management."

SKILLS . . . continues on page 4

TRENDS . . . continued from page 1

enabling, and empowering every employee, every worker" (Horsfall, July 2002, p. 17).

The Rise of Information and Communication Technologies

Organizations that succeed today are those that can quickly and successfully communicate and utilize critical knowledge. For example, perhaps the single greatest contributor to Wal-Mart's success has been its ability to expand sales growth while minimizing costs through information technology. Wal-Mart's computer system is the most powerful in the corporate world, second only to that of the U.S. government. Its computers are linked directly with suppliers, thus allowing careful monitoring of inventories. Indeed, because of such careful monitoring, 97% of Wal-Mart's goods never pass through a warehouse (Wal-Mart Annual Report, 2001).

Using technology allows Bank of America, a nationwide bank with $700 billion in assets, to manage its bank as efficiently as it once managed a single-state banking system with $7 billion in assets. Transactions completed over the Internet, for example, cost only 2 cents versus 24 cents at an ATM, 54 cents via telephone, and $1.25 when handled by a bank teller (Byrne, 2000).

Cisco conducts nearly all of its administrative functions over the Internet; 90% of its customer orders arrive and are processed without human interaction. Indeed, the Internet has been called as revolutionary an innovation as the steam engine or the assembly line (Byrne, 2002). Its technology not only permits all employees—from the CEO to a teenage sales clerk—to instantly access information anywhere and at any time, but also dramatically lowers the cost of creating and selling products.

Keying In is mailed quarterly—September, November, January, and March—by the National Business Education Association (NBEA), 1914 Association Drive, Reston, VA 20191-1596; Tel: (703) 860-8300; Fax: (703) 620-4483; Home page: www.nbea.org; E-mail: nbea@nbea.org. Subscriptions are included in the membership dues; individual copies are $3.50. Copyright © 2003 NBEA. Material may not be reproduced in any form without written permission from NBEA. Postmaster send change of addresses to NBEA, 1914 Association Drive, Reston, VA 20191-1596.
Publisher: Janet M. Treichel
Assistant Publisher: Todd F. Crittenden
Writer and Editor: June G. Wagner

Globalization

Today, most major corporations not only sell goods or services in overseas markets but also have established a physical presence in various countries. Intel, for example, has offices in 45 countries around the world and maintains one of its largest chip manufacturing plants in Ireland. United Airlines has been a global company for many years, notes Venkat Krishnamurthy, the company's director of information services and a management adjunct professor at Elgin Community College in Elgin, Illinois. Currently in bankruptcy, the airline has been focusing on one of its key strengths: building strategic alliances with foreign carriers to create a truly global network of services that links the U.S. with cities in every hemisphere.

The European Community, U.S.-Canadian Alliances, and the U.S.-Mexico Border Zones are agreements that "greatly impacted how and where business is conducted, how the workforce needs to be educated, and why strategic planning is needed to participate successfully in expanding and changing global markets," observes Kenneth L. Gorman, dean of the College of Business at Winona State University in Winona, Minnesota (1999, p. 103).

Many companies have foreign operating divisions that have the autonomy to adapt and customize services and products to the local cultures. These divisions often have management teams that operate separately yet interdependently with the corporate headquarters. United, for example, has a country manager in each country who exercises a fair amount of autonomy but must report to the international division in Chicago, observes Krishnamurthy.

Molex Incorporated, a manufacturer of electronic, electrical, and fiber optic interconnection products and systems, is divided into regions, notes Chris Vetch, a manufacturing engineer for the Automotive Manufacturing Unit. These regions include the Americas (North and South), Far East North (Japan and Korea), Far East South (Singapore, Malaysia, China, Thailand, Taiwan, and India), and Europe. Each region has different divisions, and each division is run somewhat as a separate business unit, ultimately tied together by a Global Information System called SAP, he observes.

Molex has 55 manufacturing plants in 19 countries, and sales outside the Americas region account for approximately 60% of the company's total sales. Indeed, most large U.S. corporations now derive approximately half of their net income from operations outside the country compared to one-tenth in the 1950s (Bianco, 2000).

Employees, raw materials, customers, and financing are no longer limited by geographical region. "The new global corporation might be based in the U.S. but do its software programming in Sri Lanka, its engineering in Germany, and its manufacturing in China," writes Byrne. "The company of the future will call on talent and resources—especially intellectual capital—wherever they can be found around the globe" (2002, p. 4).

Doing Business 24/7

The Internet and globalization have intensified the need to keep business running around the clock. The growth of the service industry, the influx of women into the workforce and their need for access to evening and weekend services, as well as the demands of an aging population for various services, especially health care, are also driving the trend toward a 24/7 economy (Newton, 1997). Indeed, only 55% of Americans are employed full-time during the day, and job growth through 2005 is projected to be in fields with high numbers of employees working evenings, nights, and weekends in such occupations as retail, nursing, and food service (Newton, 1997).

Advances in computer technologies, online services, fax machines, and electronic communications devices such as cell phones, pagers, and digital assistants permit more workers to telecommute or maintain "virtual offices" that are accessible 24 hours a day.

The increased speed of business of a 24/7 economy means that new technologies are obsolete in months rather than years and that products that once took

years to develop now come to market in a fraction of that time. In 1990, for example, automobiles took six years from concept to production versus two years today. The typical consumer electronics product now has an average lifespan of only two months (Tapscott, 1996).

The increased speed of business has also necessitated faster decision making. "The old process-oriented corporation must revamp. With everything from product cycles to employee turnover on fast-forward, there is simply not enough time for deliberation or bureaucracy," writes Byrne (2002, p. 4).

Mary Jean White, the business department chair and director of workforce development at Southern Union State Community College in Opelika, Alabama, observes that many companies no longer want to spend time training new employees. "They want them ready for the workplace now," she notes.

Educated Consumers

When industrialization came of age a century ago, it unleashed the power of mass production and mass consumption. "Companies sought economies of scale to build large factories that produced cookie-cutter products, which they then sold to the largest numbers of people in as many markets as possible," Byrne notes (2002, pp. 3-4). In our evolving knowledge-based economy, not only are companies using knowledge to more quickly and effectively gain a competitive advantage in the global marketplace, but consumers are also using knowledge to demand more sophisticated and personalized products.

"The company of the future will tailor its products to each individual by turning customers into partners and giving them the technology to design and demand exactly what they want," observes Byrne (2002, p. 4). All Dell computers, for example, are made-to-order for each customer. Because it no longer has to guess at what the customer wants, it can keep inventory, warehouse space, and sales staff to a minimum, generating savings for the company and the customer. Customers deal directly with the computer manufacturer and can track the production progress of their computer as it is built to their specifications. Typically, the company assembles and ships each computer within five days of the placement of an order.

The Internet's growing interactivity has played a major role in permitting companies to personalize their services. The Shop and Buy Center at the Saturn Web site allows customers to build their own cars, selecting colors, warranties, and special options, while it keeps a running tab of the total price. Consumers can also calculate what their monthly payments will be and apply for credit pre-approval.

The Aging Workforce

One of the most significant demographic and economic events has been the 76 million people born between 1946 and 1964—the baby boom generation. In 1996, baby boomers made up 30.3% of the U.S. population, and on January 1, 1996, the first baby boomer turned 50. By 2020, due primarily to the aging of the boomers, the U.S. Census Bureau projects that there will be more than 115 million adults over the age of 50, a 50% increase from 1999 (Dychtwald, 1999). There are also more older Americans in the workforce than ever before. According to the Census Bureau, 75% of men and 63% of women over age 55 are working, while 19% of men and 10% of women over the age of 65 remain on the job (Ceridian, 2002).

The loss of knowledge and expertise that these workers represent is a growing problem as these individuals retire. "Corporations are increasingly losing experienced employees and face a shortage of skilled workers," observes White. Qualified replacements are especially difficult to find, since succeeding generations are smaller. As a consequence, companies are placing a higher premium on talent and learning to operate more efficiently with fewer workers. The largest companies in America by market capitalization in 1999 versus those in 1989 employed 3% fewer workers. During the same time, their collective market capitalization rose by 500% (Coy, 2000).

The increasingly competitive marketplace, as well as the difficult economic environment created by the recession and the aftereffects of the September 11th attacks, is also forcing companies to trim back and make better use of a smaller base of employees. United Airlines has been streamlining its corporate structure, eliminating duplication and focusing on core competencies.

"We are minimizing capitalization and trying to extract the maximum efficiency from our employees and our operations," observes Krishnamurthy.

Flexibility has become an increasingly important requirement on the part of corporations and workers. Workers in all industries are expected to be able to accomplish the tasks of more than one job description and adapt easily and quickly to changing conditions in the workplace.

Increasing Diversity

In addition to an aging workforce, organizations are facing other demographic changes in their employees, customers, investors, clients, and other stakeholders, notes Gorman. "Diversity is not limited to race and ethnicity and can include perceived differences of geographic origin, lifestyle, nationality, sexual orientation, physical abilities, position in an organization, profession, socioeconomic status, or religion," he writes (1999, p. 107).

According to the Hudson Institute study, *Workforce 2000: Work and Workers for the 21st Century*, commissioned by the U.S. Department of Labor, 85% of the new entrants into the workforce will be women, minorities, and immigrants. Female participation in the workplace has risen to 60% from 50% twenty years ago. And between 1980 and 1990, the U.S. population increased by 10%, the second largest increase in the history of this country (Coy, 2000).

Successful corporations will be those that are able to embrace and manage a more diverse labor pool in which all individuals are able to maximize their contributions and realize their highest potential.

The Pyramid vs. the Web

In the 21st century, there can be little doubt that the pace and complexity of business will only continue to grow as will the demand for an increasingly sophisticated and specialized array of skills on the part of employees. "Today the hierarchical structure no longer provides what organizations need to successfully run an efficient and productive business," observes Linda Hefferin, a professor of management at Elgin Community College in Elgin, Illinois. "Most organizations are morphing into more hybrid structures. The upper ranks of a company may still operate in a traditional hierarchical fashion, but midlevel managers function as teams to be responsive in a distributed, dynamic world. The new horizontal organizational models require the shrinking of the middle management function, the empowerment of the rank-and-file employees, and the sharing of pertinent information across the organizational network."

Hefferin further observes: "Flat management structures utilize internal networks, project teams, and task forces. Teamwork has become a logical replacement for steep management hierarchies. Using a cross-functional perspective provides new opportunities to increase productivity by producing faster and better decisions and better quality services for customers. Using teams also results in utilization of combined intellectual abilities of people—an organization's most important resource—as they engage in real-time problem solving."

Byrne notes, "if there is a pair of images that symbolize the vast changes at work, they are the pyramid and the web. The organizational chart of large-scale enterprise had long been defined as a pyramid of ever-shrinking layers leading to an omnipotent CEO at its apex. The 21st century corporation, in contrast, is far more likely to look like a web: a flat, intricately woven form that links partners, employees, external contractors, suppliers, and customers in various collaborations. All of these constituents will be linked in ways that will make it nearly impossible for outsiders to know where an individual firm begins and where it ends" (2000, p. 3).

Business educators face the challenge of preparing students for a future in which they will be required to assume greater responsibility in the decision making process, to work in diverse teams, and to exhibit initiative and leadership on a level that was inconceivable only a decade ago.

SKILLS . . . continued from page 1

In 2000, the median weekly earnings of high school graduates was 43% less than those of college graduates; in 1979, this gap in earnings was only 28% (Coy, 2000). "As organizational structures flatten, greater emphasis is placed on utilizing the knowledge, experience, expertise, and talents of all employees," notes Kenneth L. Gorman (1999, p. 105). All organizations have become, in effect, knowledge organizations where their key assets are no longer their physical plants but the knowledge and skills of their workers. Employees are no longer "interchangeable ciphers performing repetitive tasks" but active partners contributing to the achievement of business goals (Bendaly, 1999). This trend places an increasingly high premium on an educated workforce, proficient in some of the skills outlined below.

Self-Directed, Empowered Employees

Today's employers are particularly interested in self-reliant employees who have a good work ethic and are able to think and act on their own. Self-direction has become a fact of life at most corporations, where workers often have vastly different degrees of specialty and are expected to be responsible and accountable for everything within their parameters of authority (Bendaly, 1999).

The availability of information technology is also leading business and industry to give workers more information and more decision making authority. In a fast-changing workplace, it is not so much the mastery of a specific body of knowledge that is important, so much as it is the ability of employees to find information on their own, synthesize it, and use it, White notes. They must be able to sift out the good information from the bad, adds Krishnamurthy, and remain objective in evaluating its quality. They must be able to organize their ideas and institute of a plan of action for accomplishing a goal.

Because lifetime employment is no longer a guarantee, students must also learn to manage their workforce destinies and take responsibility for developing a wide array of skills that are adaptable and

transferable from employer to employer. Indeed, a job for life in a vertical hierarchy, where career development is determined by the company, has become increasingly obsolete. According to the Bureau of Labor Statistics, the average person born in the later years of the baby boom held nearly ten jobs between the ages of 18 and 36 (2002). Changing business structures are also encouraging many individuals to become self-employed.

Business educators can help foster self-reliance by moving away from a passive lecture format to teaching strategies that require active inquiry. In active, self-directed learning activities, students take more responsibility for their own learning, and the teacher becomes a knowledge facilitator rather than a knowledge dispenser. Students also learn to manage themselves and the projects they are completing with a minimum of direct supervision.

A good activity that allows students to utilize a variety of technologies and research skills is setting up a mock business start-up. Students create a product, investigate its potential market, develop a marketing strategy, design appropriate packaging, and decide on pricing. Students can also design Web pages for their fictional companies.

Encouraging inquiry and exploration can help stimulate excitement about learning. Indeed, the number one skill that United looks for, Krishnamurthy says, is a hunger to learn. Employees who take the initiative and seek out the knowledge they need in order to perform their jobs will be successful.

Communication Skills

In our highly networked society, business and industry continue to rank communication skills at the top of their lists of desirable skills in employees. Employees at United, notes Krishnamurthy, must be able to communicate laterally as well as upward and downward in the organization, adapting the style of their language to the needs of each of these audiences. They must have good oral and written communication skills, as well as the ability to interact with a diverse workforce.

In the new horizontal organizations, where top-down communication has been replaced by the sharing of information and increased discussion about finding solutions to problems, communication that is articulate, accurate, and well organized is more important than ever. Strong grammar, spelling, and punctuation skills are essential. Nonverbal communication skills, such as the ability to respond to body language and other nonverbal cues, are vital as well.

Teachers need to emphasize the development of communication competencies through such activities as oral presentations, research reports that hone writing skills, and group projects that require students to interact with other members who differ in their ethnic and cultural backgrounds as well as gender and abilities. Activities that teach appropriate e-mail and phone etiquette are also important. The "Communication Exercise" on this page is designed to teach students to communicate with a variety of different audiences.

Decision Making Skills

As power becomes more evenly distributed in a flattened organizational structure, individual workers take on more decision making responsibility. For example, when planning began for the Neon automobile, DaimlerChrysler designers were given various criteria, such as mileage and cost, but were otherwise left alone to create a car. In earlier days, the CEO would have been brought into design decisions (Tapscott, 1996).

Business educators need to integrate more critical thinking activities into the classroom that encourage students to look for creative and innovative ways to solve problems and make complex decisions. "One of the best ways to prepare students for the new work environment is through case studies," notes Linda Hefferin. "I prefer to use teams of students to respond to the cases. By around the second or the third week of class, I've had an opportunity to get to know the students a bit. Then I divide them up into management consulting teams, hoping to achieve as much diversity as possible with each grouping. Each team develops a name, logo, and mission statement. We also complete some team building activities."

When her students are ready for the assignment of a case study, Hefferin has all teams prepare a case response.

Communication Exercise: Publicity for a Charity Event

You are the communications director in charge of generating publicity for a charity ball that will raise funds for the local food bank. The goal is to raise $100,000. The theme of the ball will be Western Wear (cowboy hats, vests, boots, jeans, rodeo finery), and there will be music and dancing, a pig race, hay rides, and a miniature horse competition. The event will be held on the grounds of a local ranch/bed and breakfast. Your job is to write a press release giving details about the event and the goals of the fundraising activity for the local newspaper. You must also write a letter to the local hospitals encouraging attendance by their administrators and staff physicians (you may want to gather statistics about the impact of the recession on the local economy—the number of individuals without jobs, the number of families without health care, the number of children who go to school hungry, the effects of malnutrition on growing bodies, etc.). Third, you must write a more general letter to local businesses encouraging them to attend and donate money to the cause (you will need to stress that the names of the sponsoring businesses will be displayed on program handouts and that local support is important). And, finally, you must write a letter to the local supermarkets encouraging them to donate nonperishable food items.

Decision Making Exercise: Hotbot Labs

Case Study

You work for Hotbot Labs, a large pharmaceutical company headquartered in the Midwest. The company is thinking of developing a new allergy drug. The market for such drugs has exploded in recent years and is currently estimated at $5 billion annually. If Hotbot develops a safe and effective drug, it could capture up to 20% of the U.S. market for allergy drugs. At the present time, the company needs to decide whether or not to invest in Research & Development (R&D) for the drug. Following the concept phase, R&D is the first step in the process of bringing a new drug to the market. R&D involves the scientific research to create the drug, as well as human trials to test efficacy and uncover side effects.

If Hotbot delays the decision to pursue R&D any further, competitive drugs will have taken over the market and its share will be much less once the drug is in production. R&D is a costly activity and is expected to require approximately $200 million for this drug. If the R&D effort is undertaken, the company may or may not be able to produce a drug that can be presented for FDA approval. The company estimates the probability of developing an FDA ready drug at 80%. Historically, the FDA has approved 1 in 4 applications for similar allergy drugs. It is known that your biggest competitor, Flaxo, is well into clinical trials for a competing allergy drug and is expected to present an application to the FDA next year.

It is now January 2003. Assume R&D will take one year; decision of approval / non-approval from the FDA will take an additional year; and if approved, it will take one more year to manufacture and distribute the drug to retail outlets. In other words, if you decide to invest in R&D now, January 2007 is the earliest date that the new drug will be out on the market. Also, the Board of Directors makes the decision on initiating R&D for new drugs only once a year; so your next shot at getting this drug into the pipeline won't be until January 2004.

- Should Hotbot proceed with R&D on this drug?
- Will the decision change if the cost of R&D is $100 million?
- If Hotbot spends $250 million on the R&D effort, it believes it can put together an even stronger application and raise the chances of FDA approval to 1 in 3. Should Hotbot consider the more expensive R&D option?

Analysis

A decision tree would be a useful tool to lay out the options and paybacks in this situation. Before drawing out the decision tree, here are some relevant numbers:

Potential payback = 20% of $5 billion = $1 Billion
Cost of R&D = $200 million
If R&D is pursued, probability of success = 80%
Following that, probability of FDA approval = 25% (1 in 4)
Time frames: Complete R&D: 1 year; Get FDA approval: 1 year; Bring to market: 1 year

Using the decision tree, specify the possible states for Hotbot in each year (January 2004, January 2005, January 2006), the associated probability of that state, and the associated financial status.

Activity provided courtesy of Venkat Krishnamurthy.

"However, one team (we rotate through until all teams have presented) is assigned to present the case to the rest of the class," she notes. "This way students are also developing leadership and presentation skills, as well as decision making skills applied to the case response. In addition, the students become more independent and responsible for their own learning."

The "Hotbot Labs Exercise" developed by Krishnamurthy and presented on this page can be used to promote decision making skills in students.

Hefferin also likes to have her students complete some logic exercises. "There are many Web sites that can help students develop logic and problem solving skills," she notes. "One of my favorites is queendom.com/mindgames/."

Teamwork Skills

As companies reorganize around teams, the ability of individuals to work in a team environment becomes more important. "Teams are very important to Molex's success," observes Chris Vetch. The company has a Total Quality Management (TQM) philosophy and uses a variety of different teams to accomplish its business goals. One kind of teaming used is called "focal point" teaming. "At the beginning of each fiscal year, the lead teams set forth a mission for the year and create strategic objectives," says Vetch. From these objectives, focal point teams are generated to work on each of the goals.

Many teams share day-to-day responsibility for managing themselves and making complex decisions. "However, unless employees are trained in conflict resolution techniques, they will not know how to go about working out the conflicts that may arise," notes Sheryl Piening. "My research on teaming indicates that individuals must be trained in leadership skills and communication skills (conflict resolution techniques) as well as the teaming tools." To work effectively in teams, members must have skills in constructive criticism, encouragement, trust building, negotiation, and compromise.

Business educators can play an important role in preparing their students for a team-oriented workplace by incorporating team building and collabo-

rative learning strategies into their classroom activities. Teachers should strive to place students in heterogeneous teams where members have varying skills, talents, and interests, as well as different ethnic and cultural backgrounds. The learning objectives of the team projects and the manner in which they will be evaluated should be clearly defined.

Hefferin recommends a team building activity in which each team prepares a meal. "During preparation of a meal, lines of communication are opened up and better interpersonal relationships can be fostered," she observes. "The team members must work together and follow directions to achieve their goal. And, of course, along the way, there is a lot of laughter as well as the opportunity to eat your end product!" Other good team activities are group projects where each member is responsible for researching and reporting on a mini-topic within the larger scope of the project, such as producing a school magazine or newsletter, where different individuals are responsible for the reporting, layout, photography, and printing.

Leadership Skills

"As more organizations reengineer themselves into what are, in effect, collections of projects and task forces, more opportunities exist for leaders to emerge in the middle of the organization instead of just at the top," writes business consultant Charles Handy. "A career is not so much a ladder of roles, but a growing reputation for making things happen" (1996, p. 6). In the teams that now dominate many organizations, leadership passes back and forth among individuals as the phases of the project evolve and different areas of expertise are required to complete the task.

Leadership, however, involves more than the ability to get things done and to think strategically. "It involves an ability to convey a sense of direction and instill confidence," notes Krishnamurthy. Leadership requires an understanding of people and the ability to motivate them.

Mentoring, job-based experiences, and student organizations are good ways to foster leadership development in students, notes White. Piening has her

students identify important leadership characteristics. "I sometimes do this by placing students in small groups and have the groups brainstorm," she says. "I ask them to identify characteristics they would expect a good supervisor to have. Then we put the ideas from each group all together on the board, grouping similar terms. I also show a movie on a leader and ask the students to identify what characteristics made this person a good leader. (I usually show one of the life of Martin Luther King, Jr.)." Students can then be given a leadership self-assessment to identify characteristics that they need to strengthen or develop.

One of the best ways to develop leadership skills is within teams, Piening notes. "The first time around for a team project, I designate a leader," she says. "For the second or third time around, I tell them to select someone else on the team. On the first time through a project, I provide a lot of direction—at what point they should be on a given day into the project; after that time, they have to set their own time frame, etc. My philosophy is that you provide the training and the tools to accomplish the tasks, then you let the students practice."

Continual Learning

"In the new economy, individuals can expect to fundamentally change their knowledge base and skill set several times throughout their lives," writes Donald Tapscott, author of *The Digital Economy* (1996, p. 299). It is not enough, he observes, to simply keep up with the changes in one's field; the need for lifelong learning will involve the need to learn how to use new tools and applications of knowledge that have not yet been invented.

For example, when personal computers first appeared in offices, the majority of workers had to learn how to use this new and very different tool, including a new form of communicating, e-mail, and new ways of handling information, such as electronic databases and Web pages. In a matter of a few years, the typewriter was completely obsolete.

Working and learning are becoming inextricable, observes Tapscott. Business educators must teach their students that education is not something that is completed when one obtains a degree, but a continual process which may involve going back to school repeatedly, taking numerous courses over a lifetime, and/or seeking out knowledge on their own. Currently, approximately half of all adults are enrolled in adult-education classes.

In an era where information is doubling every two to three years, perhaps the most important thing that business educators can instill in their students is a mind-set that recognizes learning as essential to the success of their professional and personal lives, and ultimately, to their ability to function as responsible citizens in the society of the 21st century.

To help students meet the challenges of the new knowledge economy, business educators must take the lead in integrating new business practices, skills, and trends into the classroom.

NBEA National Business Education Association
1914 Association Drive
Reston, VA 20191-1596

Non-Profit Org.
U.S. Postage
PAID
Reston, VA
Permit No. 2431

**********AUTO**MIXED AADC 201
*
ERIC CLEARINGHOUSE ON
ADULT, CAREER, & VOC EDUC
1900 KENNY RD
COLUMBUS OH 43210-1016

Keying In Feature Story. . .

THE CHANGING SHAPE OF CORPORATIONS

RESOURCES

Bendaly, L. (1999). *Organization 2005: Four steps organizations must take to succeed in the new economy.* Indianapolis: Park Avenue Productions.

Bianco, A. (2000). The enduring corporation. *BusinessWeek Online.* Retrieved November 25, 2002 from: http://www.businessweek.com/2000/00_35/b3696056.htm

Bureau of Labor Statistics. (2002, August 27). *Number of jobs held, labor market activity, and earnings growth among younger baby boomers: Results from more than two decades of a longitudinal survey summary.* Retrieved January 17, 2003 from: http://www.bls.gov/news.release/nlsoy.nr0.htm

Byrne, J. A. (2000). Management by web. *BusinessWeek Online.* Retrieved November 25, 2002 from: http://www.businessweek.com/2000/00_35/b3696011.htm

Ceridian. (2002, April 29). *Older Americans month heightens awareness of needs of aging U.S. workforce.* Retrieved January 3, 2003 from the World Wide Web: http://www.ceridian.com/myceridian/content/0,1216,295-2561,00.html

Coy, P. (2000). The creative economy. *BusinessWeek Online.* Retrieved November 25, 2002 from: http://www.businessweek.com/2000/00_35/b3696002.htm

Dychtwald, K. (1999, November 8). Boomer wake-up call. *Senate committee on aging.* Retrieved January 3, 2003 from: http://aging.senate.gov/boomercenter/index.html

Gorman, K. L. (1999). Organizational leadership in the 21st century. *The 21st century: Meeting the challenges to business education. In NBEA, (Ed.), 1999 NBEA Yearbook.* Reston, VA: National Business Education Association.

Handy, C. (1996). The new language of organizing and implications for leaders. In B. Hesselbein, M. Goldsmith, and B. Richard. (Eds.), *The leader of the future* (pp. 3-9). San Francisco: Jossey-Bass Inc.

Horsfall, W. (2002, July). Carly Fiorina: Hewlett-Packard's fearless leader. *Sam's Club Source,* 16-17.

Issacs, W. (1999). *Dialogue and the art of thinking together.* New York: Currency.

Murphy, C. (2002, April 15). Fortune 500: Now that Wal-Mart is America's largest corporation, the service economy wears the crown. *Fortune,* 145, 8, 94-98.

Newton, P. (1997). Demographic and social changes. *The changing dimensions of business education. In NBEA (Ed.),1997 NBEA Yearbook.* Reston, VA: National Business Education Association.

Svensson, P. (2003, January 2). Boomers still rule economy; retirement next. *The Seattle Times.* Retrieved January 3, 2003 from: http://archives.seattletimes.nwsource.com/cgi-bin/texis.cgi/web/vortex/display?slug=boomerselloff02&date=20030102&query=Boomers+still+rule+economy

Tapscott, D. (1996). *The digital economy: Promise and peril in the age of networked intelligence.* New York: McGraw-Hill.

Wal-Mart. (2001). *Wal-Mart annual report, 2001.* Bentonville, AR: Author

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").